

HISTORY OF ZOOLOGY IN WESTERN AUSTRALIA.

PART 3. 1829—1840.

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In two previous papers¹ I have traced the history of our knowledge of the animals of Western Australia up to the period when the first settlers arrived at the Swan River in 1829. In the following account I propose to continue the narrative up to the year 1840.

The first ten years of the Swan River Colony were naturally marked by a great increase in the knowledge concerning the animals of the western half of the continent. Many of the early settlers collected specimens and transmitted them to England and other countries of Europe, where they found their way into public and private collections and were described from time to time at the meetings of learned societies. In addition to these somewhat casual collections, professional collectors also visited the colony, natural history collections were formed on some of the more important exploring expeditions, especially those of Captain Grey, whilst the last of the surveying voyages which gave us the map of Australia, that of H.M.S. "Beagle," under Captains Wickham and Stokes, led to the discovery of numerous animals in the unknown North-West.

1829.—During 1829 many short expeditions were made in different directions to look for land for settlement, and the narratives of the leaders of several of these were published, but give little information about the animals seen.

Lieut. Preston² with a party of officers and men of H.M.S. "Sulphur," followed the valley of the Canning River across the Darling Range in September, and records seeing an Emu, a Swan, Cockatoos, and Parroquets, Native Dogs, Kangaroos, and Kangaroo Rats, on the journey.

In November, Mr. Collie² and Lieut. Preston explored the coast between Cockburn Sound and Geographe Bay, and noted Pelicans, Gulls, Swans, Ducks, and other waterfowl.

1 Journ. of W.A. Nat. Hist. & Sci. Soc., Vol. V., 1914, pp. 49-64.
Journ. of Roy. Soc. of W.A., Vol. I., 1916, pp. 83-149.

2 Stirling, Sir J.: Journals of Several Expeditions made in Western Australia, 1829-32. London, 1833.

Lieut. Breton,³ who spent five weeks in the colony in October and November, noted that at Swan River the animals “are of the same description with those on the East Coast, and the only noxious beast is the native dog, or wolf of this country.”

On both the Swan and Canning Rivers, he found “black swans, ducks, teal, widgeon, and other birds; they were rapidly decreasing, the constant warfare kept up against them on the part of the colonists being so active, that scarcely one of the feathered race could escape them.” He records that on one of his excursions “The birds shot during the day by a party of six persons, consisted of a swan, a duck, a teal, three cockatoos (two were white, the other black), and a host of the smaller kind of parrots.” The only other bird he refers to is “The Common Crow.”

He caught three scorpions in his tent, and one evening “an incredible number of winged ants entered and almost covered the sides of it, besides flying into our tea, and almost extinguishing the candles.” But he states that “the blow-fly is a greater nuisance than all the other insects and reptiles united, an officer at Swan River found his carpet-bag swarming with the progeny of this loathsome insect.”

Lieut. Breton visited Garden Island, where “the only animal found was the Wallabee Kangaroo,* with an occasional seal.” “It may possibly prove an eligible spot for the establishment of a fishery, as snappers and other fish were abundant. Sharks also of large size are seen both in Cockburn Sound and Gage’s Roads; we had one of these monsters alongside the vessel, and its length was certainly not less than twenty or twenty-two feet.” “I found a specimen of the *bêche de mer*, but believe it is not common there.”

Letters written in November by various settlers⁴ & ^{4a} mention Kangaroos, Kangaroo-rats, and Opossums, among the Mammals. Of birds, they record the occurrence of Emus, Quails, Pigeons, Black Swans, Wild Ducks, Widgeons, Pelicans, Cockatoos, Parrots, Parroquets, Crows, Jays and Flycatchers. Lizards and Venomous Snakes are also mentioned. Fish are stated to be plentiful, beautiful shells are found on the coast, but the Mosquitoes are very annoying at night.

Mr. Spencer Trimmer states^{4a} that “several persons who have been into the interior of the country amongst the Lagoons, describe an animal which they have seen as being like the hippopotamus; many traces have been seen of a large animal on the banks of the river.”

* Dama Wallaby (*Macropus eugenii*, Desm.).

³ Breton, Lieut. H. W. : Excursions in New South Wales, Western Australia, and Van Diemen’s Land, 1833.

⁴ Powell, Rev. J. G. : Narrative of a Voyage to Swan River, 1831.

^{4a} Extracts of Letters from Swan River : J. Cross, London, 1830.

The last visitor to the Swan River Settlement in 1829 of whose observations we have a record was Dr. T. B. Wilson.⁵ Dr. Wilson arrived at Fremantle with Captain Barker and members of the Raffles Bay Settlement, which had just been disbanded, on October 17, 1829. During the month that he spent at the settlement, he made several expeditions. On one of these he met with natives in the Darling Range, who had "their noses ornamented with the leg bones of the kangaroo, and one of them had his head decorated with the red feathers of the black cockatoo. One of them procured a handful of loathsome-looking grubs from a grass-tree."

On a visit to Rottnest Island "the dogs caught two wallabi"* and one of the party shot a snake about five feet long. On the south-west side of Garden Island "we perceived a seal making for the shore; he waddled some distance up the sandy beach, and, after looking around, lay down at his ease, intending, no doubt, to enjoy repose."

Dr. Wilson went on with Capt. Barker to King George's Sound, where they arrived on Nov. 29, the latter taking over the command of the settlement. During the short time that Wilson spent here, waiting for a ship to sail for Sydney, he made a considerable exploration to the north-west, discovering the Kent, Denmark, Hay, and Sleeman rivers and the inlet which Sir James Stirling named Wilson's Inlet in his honour. On this expedition, in which he was accompanied by Mr. Kent, he met with abundance of kangaroos, a few bandicoots, black snakes, black cockatoos, the bell bird, black swans, ducks, teal, and other aquatic birds. He was also the first to record the occurrence of leeches, which he calls "the true *Hirudo medicinalis*." †

On a subsequent short expedition to Oyster Harbour the only animals he mentions are wild ducks. He left King George's Sound on Dec. 20.

In a letter, dated Fremantle, December 12, 1829, a settler^{4a} mentions that "the fish is very excellent; one kind in particular, it being something like skate, but very superior and much larger; there are also whittings, etc."

1830.—Mrs. Jane Roberts,⁶ who arrived at Fremantle in Jan., 1830, and remained there seven weeks, tells us practically nothing about the animals she saw.

A settler who had made an expedition by boat to the southward of Fremantle told her that "he should never forget the sight

* Quokka or Short-tailed Wallaby (*Macropus brachyurus*, Q. & G.).

† *Hirudo australis*, Bosisto.

^{4a} Extracts of Letters from Swan River: J. Cross, London, 1830.

⁵ Wilson, Dr. T. B.: Narrative of a Voyage round the World, 1835.

⁶ Roberts, Jane: Two Years at Sea, 1834.

of thousands and tens of thousands of black swans, which, as his party coasted the shore, rose and darkened the air for the distance of eight or ten miles."

She mentions that "the buzz and sting of the mosquitoes and the constant snapping noise of the lizard" disturbed her at night.

A military officer,^{4a} writing at the end of the summer (? January or February, 1830), says that "the rivers are enlivened by numerous flocks of wild ducks, teal, wigeons, etc., and in particular, the black swan, which has been much persecuted, and is now rather shy, but is still frequently seen in large flocks; and by the pelican, a still larger bird than the swan. These rivers also swarm with fish of several kinds, all excellent eating, and easily caught. They also contain a singular amphibious animal, between a turtle and a tortoise, † about twelve inches long, which makes very excellent soup. Besides the water-fowl, our gunners have found great numbers of the white and black cockatoo, of a large kind, and very good eating; quails, and two or three varieties of pigeons. There are also crows, magpies, eagles, hawks, owls; and near the coast are several kinds of gulls, sandpipers and other sea-birds, and great numbers of paroquets all over the country. We are totally exempt from reptile nuisance. We have a number of such snakes as are found in New South Wales. Such as the diamond snake, which has been killed of a length exceeding nine feet, but quite harmless." The large timber is often found to be hollow at heart, owing to the ravages of a kind of white ant.

In August, 1830, Ensign Dale² made an expedition to the eastward of the Darling Range. The only animals he recorded were a litter of native dogs. He saw tracks of emus.

In September Lieut. Erskine² also made an expedition to the east of the Darling Range and records seeing numerous kangaroos, tracks of emus, and black swans on the Avon River.

Between Oct. 25 and Nov. 7, 1830, Ensign Dale² made another expedition beyond the Darling Range. Mr. T. W. Harvey,² who accompanied him, wrote a fuller account of the expedition than did Dale. They penetrated 100 miles east of Swan River. They saw many kangaroos, chiefly of "the large kind, which are properly called forest kangaroos," and on Oct. 27 killed "a small one of another kind, called the mountain kangaroo." The previous day they had found an emu's nest in which the shells of the eggs only remained, the young ones having been hatched some time.

They saw many white cockatoos, and Harvey states "the white cockatoo appears to live on what it takes from the ground, whether insects or roots I am not able to say. The black kind live on the buds of large trees and shrubs."

† *Chelodina oblonga*, Gray.

² Stirling, Sir J. : Journals of Several Expeditions made in Western Australia, 1829-32. London, 1833.

^{4a} Extracts of Letters from Swan River : J. Cross, London, 1830.

On Oct. 30 on the top of Mt. Elizabeth they found "an astonishing number of lizards." He also mentions "an arched piece of rock, with several birds' nests adhering to the top. From their peculiar construction and composition I judge they belong to the swallow tribe* but very different from those seen in England."

On pools of fresh water they saw ducks, also musk ducks, when mentioning which Harvey says "these birds cannot fly." In the pools were some small fish.

In a Government Notice² published this year giving particulars as to the district about Port Leschenault it is recorded that wild ducks and cockatoos had been met with. Large mussels had been observed in the Preston River, and small fish in pools in a tributary of the Collie.

1831.—Writing in March, 1831, Mr. G. F. Moore,⁷ who had arrived in the colony at the end of the previous October, gives the following account of the animals met with about his homestead near Guildford:—

"The kangaroo has supplied food to many who were prudent or fortunate enough to provide themselves with proper dogs. The only other animals you meet with usually, are, the opossum, the kangaroo rat, lizards, rats and mice, the rat not much larger than the English mouse; they are abundant and mischievous.

"I have heard of emus; and have seen wild turkeys, cockatoos, parrots, pigeons, quails, pies, jays, hawks, black swans, pelicans, and a number of other birds.

"This day I shot a duck. There are two kinds of them; one of which, the wood duck,† alights on trees. The white cockatoos‡ are very numerous, and now feed upon the flower of the red gum tree, which lately came into blossom. There are three or four species of the cockatoo,—white, black, grey, and black with a red tail. The parrots are small and green, the neck ornamented with a gold ring.§ The pigeons are beautiful, with a bronze-coloured wing.|| Many birds have singular calls or cries, and our crow makes a most dismal noise, terminated by a long doleful cry. The white cockatoo screams like a clucking hen disturbed from her nest, and the black one whines like a discontented pug-dog. There is a bird called here the robin,¶ like our own in its habits of familiarity, but its plumage is much more beautiful; a thrush resembling the fieldfare;§ a

* Nests of the Fairy Martin (*Lagenoplastes ariel*, Gould).

† Wood-Duck (*Chenonetta jubata*, Latham).

‡ Long-billed Cockatoo (*Liematis tenuirostris*, Kuhl).

§ Twenty-eight Parrot (*Barnardius zonarius*, Shaw & Nodder).

|| Bronze-wing Pigeon (*Phaps chalcoptera*, Latham).

¶ Scarlet-breasted Robin (*Petroica multicolor*, Gmelin).

§ Buff-bellied Shrike-Thrush (*Colluricincla rufiventris*, Gould).

2 Stirling, Sir J. : Journals of Several Expeditions made in Western Australia, 1829-32. London, 1833.

7 Moore, G. F. : Diary of ten years eventful life of an early settler in Western Australia, 1884.

small bird the size of a wren, but of splendid ultramarine colour.* There are many other varieties but I have not time to enumerate them.

"Fish abound in the river, but without a net of peculiar construction (a trammel net) it is not easy to catch them—I have taken a few perch, however, one small turtle, and shell fish like the clam.

"Insects are now wonderfully numerous. Ants in great quantities and of many varieties of size and colour, from the lion ant, an inch long, to the small brown ant, which can insinuate itself into the most minute crevice. These seize upon whatever is eatable, and devour it in a short time. The ground seems alive with white ants, and the trees swarm with them inside and out; everything here teems with life.

"Of snakes I have seen only two, both very small; but my men have killed five or six, some of them three feet long; we have not heard of any injury being done by them, and in fact they do not seem to be at all dreaded."

In an account of the country intervening between Augusta and Swan River² (probably by Mr. Bussell) the author mentions that on March 16 he found the head and part of the body of a sea-horse on the shore. On April 6 they killed a sturgeon (?) and also found great quantities of periwinkles of a large size.

In April, 1831, a party² exploring the south coast in a whale boat visited Nornalup Inlet where they caught many small snappers and killed two swans. Near Point d'Entrecasteaux they had to abandon their boat, and made their way to the Murray River overland. On the Blackwood River they saw plenty of swans and ducks, and about the Vasse River many large kangaroos. At the Preston River they caught some cat-fish and killed four ducks.

Surgeon Collie,² the resident at King George's Sound, made an expedition northwards from that place at the end of April and met with "great numbers of kangaroos and several emus, not to mention a fair proportion of ducks, cockatoos, pigeons, etc."

Moore⁷ writes on May 28: "The numerous frogs remind me that the moist weather and approaching winter have brought into active life an immense quantity of these creatures, some of which make a hard co-ax, co-ax sort of noise, and others a most mournful and horrible bellowing, which might be mistaken for the high note

On June 4 he found a wild turkey,^{†12} which had been wounded, "it measured seven feet from tip to tip of the extended wings; the thighs like those of a lamb."

* Banded Blue-Wren (*Malurus splendens*, Q. & G.).

† Bustard or Wild Turkey (*Austrotis australis*, Gray).

² Stirling, Sir J. : Journals of Several Expeditions made in Western Australia, 1829-32. London, 1833.

⁷ Moore, G. F. : Diary of ten years eventful life of an early settler in Western Australia, 1884.

¹² Irwin, F. C. : State and Position of Western Australia ; the Swan River Settlement, London, 1835.

On the same date Collie² paid a visit to Coffin Island, King George's Sound. "Upwards of five hundred mutton-birds (sooty petrel, *Procellaria fuliginosa*)* were caught. Sooty petrels, penguins, lizards, etc., have riddled the ground with their holes. Rock and other fish are plentiful, and several whales were observed."

On June 9, Moore⁷ "caught in the garden a beautiful snake, about eighteen inches long, with a black head and yellow body; put him into a bottle of rum, along with many other such things; he vibrated his tongue most rapidly and wickedly. Caught a centipede, nearly four inches in length; it is in the bottle of *preserves* also."

On June 13th he "shot a bird which some call a squeaker."†

On the 16th he notes: "Crows are very persevering and destructive; shot one, with its stomach full of wheat." Next day he got a "brush kangaroo,‡ about fifteen pounds weight."

Aug. 1st, Mr. Burgess's dogs had killed an old and young emu. "The old one, when erect, is nearly seven feet high, and resembling the kangaroo, both being small and slender in the fore parts and heavy and strong in the hind-quarters. This bird has a very gentle look, seems to feed entirely on grass, has no wings, and scarcely the indication of a pinion, for it is only six inches long, terminated by a small claw. The feathers are singular, two of them springing from one stem; the only long ones are in the tail; the colour is of a dark brown. The young one is not unlike a gosling, with light-coloured longitudinal stripes."

Aug. 3rd, "I have found a beautiful frog mottled with bright green."§

Aug. 13th, "I have been favoured with two new songs from birds like thrushes; the notes are not much varied, but seem rather a repetition of something corresponding with these words, "come with me and let us make a nest, ah! *do*." To which the other seems to reply, "No, indeed I shan't, at least with *you*." The last note accented."

On Aug. 19, Moore records that seven spermaceti-whales had appeared off Fremantle; next day that the blow-flies had taken a fancy to his new blankets, which had been so covered by them as to require fumigation with brimstone to effect their dislodgment.

On Sept. 6 a party, led by Mr. Dale, travelled over the hills to found the settlement of York; subsequently Mr. Dale explored the Avon Valley for a considerable distance south and north of the new

* Flesh-footed Petrel (*Hemipuffinus carneipes*, Gould).

† Leaden Crow-Shrike or Squeaker (*Neostrepera versicolor*, Latham).

‡ Black-gloved Wallaby or Brush Kangaroo (*Macropus irma*, Jourd).

§ *Hyla aurca*, Less.

2 Stirling, Sir J.: *Journals of Several Expeditions made in Western Australia, 1829-32*, London, 1833.

7 Moore, G. F.: *Diary of ten years eventful life of an early settler in Western Australia, 1884*.

settlement, and proved that the Avon was the upper part of the Swan. Mr. Moore was a member of this party, and his account of the expedition gives fuller particulars of the animals met with than does that of the leader.

Kangaroos were seen plentifully throughout the journey.

On Sept. 15th they caught "two iguanas, 14 inches long, with a purple tongue, and without a tail.* One of the party killed "what he called a puff adder, and a small snake."

At York they saw turkeys, ducks, and cockatoos, also "many burrows like badger earths," and in the Avon "something stirring, which was conjectured to be a platypus, but naturalists have not yet ascertained that it exists here."

South of Beverley, on Sept. 21st, they "saw a beautiful animal; but as it escaped into the hollow of a tree, could not ascertain whether it was a species of squirrel, weasel, or wildcat." Next day they reached a lake on which was "an immense number of ducks, swans, and other waterfowl." They "met with a large native dog, and chased another little animal, such as had escaped from us yesterday, into a hollow tree, where we captured it; from the length of its tongue, and other circumstances, we conjecture that it is an *ant-eater*—its colour yellowish, barred with black and white streaks across the hinder part of the back; its length about twelve inches.†

On Sept. 23rd, they saw cockatoos and emus, and turned back at a point about 60 miles S.S.E. of York. Nothing noteworthy is recorded on their journey back to Guildford. Moore adds: "Of birds we saw no great variety; mocking birds, parroquets, larks, and warblers, but none very beautiful. I have mentioned already all the other animals which we obtained sight of, except some reptiles, viz., three or four snakes."

On Nov. 4th, Moore records in his diary that his man "brought home a turtle‡ yesterday, and to-day another, which he found in the grass, where they had been depositing their eggs; their weight is four pounds each, and one had sixteen eggs with remarkably hard shells. Found a pretty rail, shaped like ours, but handsomely freckled; and a young wagtail,§ which has as varied a style of singing as it has various names, being called, besides the name just stated, razor-grinder, and superb-warbler." Dec. 7th.—The indefatigable little warbler, or razor-grinder, is singing its sweet notes at nine o'clock, p.m., by beautiful moonlight; it is a very fearless little bird, associating with all the farm and domestic animals, watching attentively for flies, at which it springs with unerring aim, twittering out every now and then, by way of interlude or for the sake of good digestion, some of its sweetest notes."

* Stump-tailed Lizard (*Trachysaurus rugosus*, Gray).

† Banded Ant-eater (*Myrmecobius fasciatus*, Waterh.).

‡ *Chelodina oblonga*, Gray.

§ Wagtail or Black-and-White Fantail (*Leucocirca tricolor*, Vieillot).

[On Nov. 22, 1831, at a meeting of the Zoological Society of London, "the skins were exhibited of two animals forming part of a small collection of Mammalia and Birds brought from the neighbourhood of Swan River by Lieut. Matthew Friend, R.N., and presented by him to the Society." (P.Z.S. 1831.) Mr. Ogilby described them as new to science under the names of *Hypsiprymnus setosus* and *Ornithorhynchus brevirostris*. It seems certain that these animals were not really from Western Australia, the former is a synonym of *Potorous tridactylus* of S.E. Australia and Tasmania, the latter of *Ornithorhynchus anatinus*, which has the same distribution.]

1832.—On April 4, 1832, Moore notes in his diary: "No two birds can be more different in outward appearance than crows and cockatoos, yet in their habits they are similar; they go in flocks, call and give the alarm to one another, and fly off with a noise equal to that of a rookery."

On May 3rd, he records shooting a kangaroo and an eagle and catching "a young kangaroo rat, which I have still alive; it is soon a tame thing, very like a kangaroo in miniature, but with a head larger in proportion, and with hair or fur of coarser texture." On the 10th he records shooting "bitterns, pigeons, and parrots on the margin of a lake ten miles in circumference, where we saw swans and ducks in abundance."

On Aug. 6th he mentions that "a wild bull was caught and killed the other day; and a great sensation has been created by a rumour that thirty-six head of wild cattle has been seen."

On Sept. 14th, 1832, he writes: "The cockatoos are gregarious and migratory: at some periods of the year few are to be seen; at other times, they are seen in large and frequent flocks."

"Many persons are trying to salt fish, which are very numerous in the river about and below Perth, on one occasion we took 10,000 at one draught of the seine; these are of the kind called herrings, but do not look very like them; they make a noise when out of the water, and on that account are also called trumpeters. The rack, or kingfish, is as large as a salmon; the schnapper, or bream (a deep-sided fish, not unlike the roach), the mullet, a thick-shouldered, blunt-headed fish, the silver-fish (perch), and the guard fish, sometimes come up the river. There is another species, somewhat of the nature of an eel, with a sharp spine, which it can erect at pleasure; this is caught only in the fresh water, and is called a cobbler; a kind resembling it in salt water is named cat-fish. Perch will take no bait except the shrimps which are found about stumps of trees and logs of timber in the river. The snake-necked turtle sucks your bait off most ingeniously. We have the cray-fish from two to six inches long, and clams in abundance. These are all the productions of our river as far as we are yet acquainted with them. There are crabs in the salt water, different in shape from the British, and so

very daring that they have seized me by the foot frequently when pushing boats over the flats. Neither lobsters nor oysters have been found, though the *shells* of the latter are very numerous about the flats and Melville Water."

On Nov. 1st Moore records that he "shot a duck on the wing, and found that it had a nest with ten eggs."

Dec. 12th, "the dogs killed a long-tailed, yellow-spotted iguana, and a black one: The first had eggs."

A journey undertaken by Mr. Bussell² must have been made during 1832 or earlier. He mentions in it that about the Vasse River "cockatoos were in greater multitudes than I have ever witnessed before, white and black." Kangaroos and emus were abundant there, and he saw "a cloud of ducks" on the river.

1833.—Jan. 14th, 1833, Moore notes in this diary that he "found a diamond snake round a tree, it was almost five feet long."

On the 17th he "went to some swampy ground full of springs to look for ducks; shot a brace, besides a water hen and a cockatoo. I was actually driven out of the swamps by leeches, several of them sticking to my legs."

On Feb. 15th Capt. Irwin, the Lieutenant Governor, and Mr. Moore embarked on the schooner "Ellen" to proceed to King George's Sound; the wind forced them to put back for shelter and they spent the 16th on Carnac Island. Moore states that the "men took some young mutton-birds * in the holes in which they burrow like rabbits; and the natives of our party begged hard to remain all night, in order to catch the old ones in their holes, which they do not enter before nightfall."

Nothing noteworthy is recorded during the few days they spent at Albany. On the return journey they stopped at Augusta and on the flats in the Blackwood River saw "numbers of ducks and upwards of a hundred swans." They saw "many seals of the most valuable species upon the rocky islands of Cape Lewin."

On June 21st Moore writes: "I had an opportunity lately of seeing some of the domestic arrangements of the white ants. Upon the brow of a small rounded eminence there stood a sort of a pillar of clay, about 5 feet high, which had once filled up the centre of a hollowed tree, the shell of which had been from time to time broken and burned away. This pillar was the work of white ants. As it interfered with the working of the plough, I commenced breaking and digging it down, not without some small curiosity. Numbers of centipedes were found about the outside, where pieces of the wood still remained. The clay, which was surprisingly stiff, hard, and dry, broke off in large fragments. At length, near the level of the surface of the ground, a rounded crust was uncovered looking

* Wedge-tailed Petrel (*Thyellodroma pacifica*, Gmelin).

² Stirling, Sir J.: Journals of Several Expeditions made in Western Australia, 1829-32, London, 1833.

like the crown of a dome. On breaking through this, the whole city of the ants was laid bare—a wonderful mass of cells, pillars, chambers, and passages. The spade sunk perhaps two feet among the crisp and cracking ruins, which seemed formed either of the excavated remnants of the tree, or a thin shell-like cement of clay. The arrangement of the interior was singular: the central part had the appearance of innumerable small branching pillars, like the minutest stalactical formations, or like some of the smaller coralline productions. Towards the outer part, the materials assumed the appearance of thin laminae, about half the substance of a wafer, but most ingeniously disposed in the shape of a series of low elliptic arches, so placed that the centre of the arch below formed the resting-place for the abutment of the arch above. These abutments again formed sloping platforms for ascent to the higher apartments. In other places I thought I could discern spiral staircases, not unlike geometrical staircases. The whole formed such an ingenious specimen of complicated architecture, and such an endless labyrinth of intricate passages, as could bid defiance alike to art and to Ariadne's clue: but even the affairs of ants are subject to mutation. This great city was deserted—a few loiterers alone remained, to tell to what race it had formerly belonged. Their great storehouse had been exhausted—even the very roots had been laid under contribution; till at last its myriads of inhabitants had emigrated *en masse*, to commence anew their operations in some other soil."

At a meeting of the Entomological Society⁸ of London on Dec. 2, 1833, the Rev. F. W. Hope described a number of new beetles, among which were six species from the Swan R., two of which had been sent by Capt. Roe.

Capt. Stokes⁹ records that "a singular flight of strange birds was noticed at Guildford about the year 1833, during the time when the corn was green: they arrived in an innumerable host, and were so tame as to be easily taken by hand. In general appearance they resembled the land-rail,* but were larger, and quite as heavy on the wing. They disappeared in the same mysterious manner as they arrived."

1834.—At a meeting of the Entomological Society¹⁰ of London on Feb. 3, 1834, Mr. G. R. Gray described a new species of Stick-Insect (Phasmid) from the Swan River under the name of *Phasma spinosum*; whilst at a meeting of the same Society on May 5, Rev. F. W. Hope¹¹ described a new species of weevil (Curculeonid) under the name of *Amycterus schönherri*.

* Black-tailed Native Hen (*Microtribonyx ventralis*, Gould).

8 Trans. Ent. Soc., London, Vol. I., p. 11, 1836 (5 of the species are figured).

9 Stokes, J. L.: Discoveries in Australia by H.M.S. Beagle, 1837-43. London, 1846.

10 Trans. Ent. Soc., London, Vol. I., p. 45, 1836.

11 Trans. Ent. Soc., London, Vol. I., p. 68, 1836 (the species is figured).

On May 3 Moore records in his diary that "the natives have been feasting on a sort of grub or worm which they find in numbers under the bark of the red gum trees. Those that I have had cut down present a fine store for them to have easy access to. The grub is a sort of long four-sided white worm or maggot, with a thick, flat, square head and a small pair of strong brown forceps set on the end of the head."

1835.—Capt. F. C. Irwin, who was in command of the troops with the expedition that founded the colony in 1829, and during over a year in 1832-33 administered the government of the colony whilst Sir James Stirling was in England, published in 1835¹² a book on Western Australia.

Writing of the fisheries, he states that "there is a plentiful supply of white fish on the coast, including the snapper, and many others not known in Europe. Fish have been taken in large quantities off Rottnest Island, in Cockburn Sound, at the Murray River, and elsewhere. There is, it is believed, no frequented coast where whales are found in greater abundance. When at Port Leschenault, the writer was told by the officer commanding there that he had counted fourteen in the bay at once. During a voyage of the "Sulphur" down the coast three hundred are said to have been seen. Some of these fish were declared to be sperm, by men of the ship who had been whalers; but it is chiefly the black whale that frequents the coast.

Soon after the "Sulphur's" arrival her crew, with that of the "Challenger," were engaged in fishing; and on one occasion they caught so vast a quantity of a species called the King fish that the net they were using broke, and the fish were literally driven on shore. Upwards of three hundred people were amply supplied on this occasion. Close to Garden Island is a bank on which the finest whiting are caught in great quantities. The crew of the colonial schooner "Ellen" caught on the Five Fathom Bank outside of that island, a place greatly frequented by the snapper—in less than two hours, and with half a dozen hooks and lines—fish of that description, to an extent exceeding five cwt. Some of them weighed from 20 to 40 lbs. each."

On Feb. 6, 1835, Mr. Moore, writing of the district about the Hotham River, states that "kangaroos are so abundant and tame that they were shot as often as required, and cockatoos so numerous as almost to prevent conversation by their noise."

[On April 28, 1835, at a meeting of the Zoological Society of London,¹³ "Mr. Gray exhibited a specimen of a Toad, which he had recently received from Swan River, whence it was sent to him by Joseph Wright, Esq." He described it as new under the name of

¹² Irwin, F. C. : State and Position of Western Australia ; the Swan River Settlement, London, 1835.

¹³ Proc. Zool. Soc., 1835.

Bombinator australis. The locality given is almost certainly incorrect as the species appears to be confined to New South Wales.]

On May 6, Moore⁷ noted in his diary: "One of the little native boys was busy eating frogs to-day. They looked so tempting that I ate one also, and it was delicious. The part I ate, however, was the eggs of the female, which they seem to prize most, as they say, 'The men frogs are no good.' The taste was much like that of an egg. It strikes me that I have never seen here in the pools the frog spawn, and these eggs, judging by their appearance when the frog was roasted, looked like little white eggs, distinctly formed, and not globular jellies with the embryo, like a black speck, as they are at home. The natives dig them out of the ground with their hands. There is no water now, nor none since winter last, when these were got. How do they live; Do they sleep?"

On June 23rd he adds: "It appears that the natives do not consider every frog fit for eating, for some of a greenish colour were under the stack, but they would not eat them, and said they lived above the waters, but the good ones lived in the ground."

On the same date he mentions that "white cockatoos * are becoming very troublesome upon the wheat, as well as the crows. One is obliged to keep a boy to drive them away, or to make some contrivance to frighten them. We strike a long board smartly with a stick, the sound of which frightens them a little. It is singular to see a field spotted black and white with these depredators 'pie-balded.' "

In November he writes in reply to a request for some live cockatoos that "it is very difficult to obtain them here, for they do not build their nests in this neighbourhood (as the natives inform us), and an old one would not do."

On Nov 2, 1835, at a meeting of the Entomological Society of London,¹⁴ Mr. G. R. Waterhouse contributed a "Monograph on the Coleopterous genus *Diphucephala*, belonging to the 'Lamellicornes,' in which he described as new two species from Swan River, *D. hopei* and *D. edwardsii*."

Moore writes in December: "Walking to-day through the lucerne, which is now in full flower, my ears were saluted with the familiar sound of the humming of bees; on watching narrowly I saw a great number as busy as I ever saw them on a heathy hill. They are not unlike the common garden bee, rather more active and restless on the wing; but this might have been owing to the day, which was very sultry, with high wind, thunder and lightning. Their thighs were laden with farina, their honey-bag was filled, and

* Long-billed Cockatoo (*Licmetis tenuirostris*, Kuhl).

⁷ Moore, G. F.: Diary of ten years eventful life of an early settler in Western Australia, 1884.

¹⁴ Trans. Ent. Soc., London, Vol. I., p. 215, 1836.

they have a good sting, which they know well how to use, as I can testify. I tried to trace them to their nest, but the day was so murky I could not distinguish them at any distance."

1836.—On March 6, 1836, Charles Darwin,¹⁵ in his voyage round the world on H.M.S. "Beagle," arrived at King George's Sound. He writes that "we stayed there eight days; and we did not during our voyage pass a more dull and uninteresting time . . . he who thinks with me will never wish to walk again in so uninviting a country."

On July 12, at a meeting of the Zoological Society¹⁶ of London, "Mr. Waterhouse described a new mammal, probably of the marsupial type, under the name of *Myrmecobius fasciatus* (n. gen., n. sp.). The skin had been lent by Lieut. Dale, of Liverpool, who procured it whilst on an exploring party in the interior of the Swan River Settlement, about 90 miles to the S.E. of the mouth of that river (see *ante*, p. 40). Two specimens were seen; both of which took to hollow trees on being pursued, and one of them was unfortunately burned to death in the attempt to dislodge it from its retreat. The country abounded with decayed trees and ant-hills; and from this circumstance, and from some peculiarities in the structure of the animal, Mr. Waterhouse believes that it lives chiefly if not wholly upon ants. Lieut. Dale states that, when it was killed, the tongue was protruded from the mouth to the extent of two inches beyond the tip of the nose, its breadth being three-sixteenths of an inch."

On Sept. 27, "a small collection of Birds from Swan River, presented to the Society by Lieut. Breton and Capt. Brete, were on the table." Mr. Gould described two of them as new under the names of *Gallinula ventralis** and *Oxyura australis*.

On Oct. 25 Mr. Gould described several new Australian birds, among them *Calyptrorhynchus naso*† from the Swan River.

On Dec. 5, 1836, Mr. G. R. Waterhouse, at a meeting of the Entomological Society¹⁷ of London, described some new species of exotic insects. Among them were a weevil, *Belus testaceus*, and two Homoptera, *Alleloplasis darwinii* and *Cephalelus marginatus*, discovered at King George's Sound by C. Darwin, Esq. The *Alleloplasis* was captured whilst "sweeping in coarse grass and brushwood."

On Dec. 13 Mr. Reid brought before the notice of a meeting of the Zoological Society¹⁸ a new species of the genus *Perameles* found in Western Australia, and called by the natives *Dalgheit*, and by the colonists the rabbit. He described it under the name of

* *Microtribonyx ventralis*.

† *C. banksii*, Lath.

15 Darwin, C.: Journal of Researches into the Natural History and Geology of the countries visited during the voyage of H.M.S. Beagle round the world, 1839.

16 Proc. Zool. Soc., London, 1836.

17 Trans. Ent. Soc., London, Vol. II., p. 188, 1840.

Perameles lagotis.* “A friend of Mr. Gould’s residing in Western Australia states that these animals are found beyond the mountains of Swan River in the district of York. They feed upon large maggots and the roots of trees, and do considerable damage to the maize and potato crops by burrowing. A specimen kept by him in confinement became in a few days very docile, but was irritable, and resented the slightest affront or ill usage. It took bread, which it held in its forepaws. A young one to which it gave birth unfortunately escaped, after being carried in the mother’s pouch for several days.”

Mr. Waterhouse exhibited a second specimen of *Myrmecobius*, and stated that “others similar to it were observed scratching at the roots of trees, and feeding upon the insects which are generally abundant in such situations.” He gave an account of the anatomy of the animal.¹⁸

[At the time it was supposed that the specimens of both *Perameles lagotis* and *Myrmecobius* exhibited had come from Tasmania, but a letter from Alexander Gordon, Esq., read at a meeting of the Society on Nov. 13, 1838 (P.Z.S. 1838), stated that they were from Swan River.]

Mr. Bussell¹⁹ records that “in Sept., 1836, I was becalmed in a small cutter off Point Piquet (Geographe Bay) for a day and a half; from thence whales were to be seen in all directions, sporting over a large expanse as smooth as a mirror.”

1837.—On Jan. 2, 1837, Mr. G. R. Waterhouse²⁰ read at a meeting of the Entomological Society “Descriptions of some of the Insects brought to this country by C. Darwin, Esq.” Amongst them were six species of *Haltica* and four of *Dibolia* from King George’s Sound, all of which were described as new.

In May G. F. Moore records in his diary that a native boy “has just been telling me that a large hawk, when it discovers an emu’s nest, takes a stone in its talons, hovers over the nest, and lets it drop among the eggs to break them. He laughed so slyly whilst telling it that I think he was ‘taking a rise’ out of the white man.”

In June he notes that “this day will be memorable in the annals of this colony for the killing of the first whale.” And later in the same month he adds: “two whales have been killed within the last week, and a whale calf also, besides the mother or cow whale being wounded so severely that it is thought she will be taken also.”

Other references to whales being captured occur at intervals later in his journal.

* *Thalacomys lagotis*.

18 Trans. Zool. Soc., London, Vol. II., p. 149, 1841 (with a coloured plate and figures of the skull, limbs, etc.).

19 Ogle, N.: The Colony of Western Australia, 1839.

20 Trans. Ent. Soc., London, Vol. II., p. 131, 1840.

On Nov. 21, 1837, Mr. J. O. Westwood²¹ read before the Linnean Society of London a paper "On the family Fulgoridæ, with a monograph of the genus Fulgora of Linnæus." A new species, *F. dilatata*, from Swan River, was described.

On Dec. 26, at a meeting of the Zoological Society,²² "Mr. Gould exhibited a very extensive series of Australian birds principally from his own collection, including about eighty new species." Among them were four from Swan River, *Eopsaltria griseogularis*,* *Sittella pileata*, † *S. melanocephala*, ‡ and *Anthochaera lunulata*. §

On Dec. 25, 1837, James Backhouse²³ (great-grandfather of the present writer) arrived at Albany from South Australia. From Sir Richard Spencer, the Government Resident, he learnt that "plenty of good fish is to be had, in the Harbours and the Sound: the Blacks catch a singular, bearded species, about one foot and a half long, among the sea-weed, with their spears." After passing Cape Leeuwin on Dec. 28th, on the 29th he saw some flying-fish, and reached Fremantle the same evening.

1838.—On Jan. 5, 1838, he "walked to Woodman's Point, seven miles from Fremantle, where there is a sand-spit or projecting shoal, on which some interesting shells are found. A Crowned Cough was in the act of burying itself in the sand, in the shallow water, at sunrise. There were vast numbers of sea-fowl at this point, at day-break. The variety of shells found here is considerable, and a slug, || more than a foot long, is also cast up on the beach, having a large, cartilaginous, internal shell."

On Jan. 6 he mentions that "a shark with a round nose was harpooned from the "Abercromby." It measured nearly ten feet in length. The head and shoulders of a sharp-nosed species, of not greatly inferior dimensions, that was killed on the previous day, were found in its stomach. Though these frightful animals are so numerous here no accidents have yet happened by them."

From a settler from the York district he learnt that east of York "there is a great range of extremely sterile country, almost destitute of water, but upon which the Brush Turkey ¶ hatches its eggs in hillocks of sand."

On Jan. 30, after visiting Perth, he "returned to Fremantle in a boat. Numerous shoals of fish were sporting in the sunshine and multitudes of jelly-fish of great beauty were floating just beneath the surface of the water. One of these [of which a figure is given]

* *E. australis*, White.

† *Neositta pileata*.

‡ *Neositta pileata*, Gould.

§ *A. chrysoptera*, Lath.

|| *Tethys gigantea*, Sowerby.

¶ Mallee Hen or Gnow (*Leipoa ocellata*, Gould).

²¹ Trans. Linn. Soc., London, Vol. XVIII., p. 133, 1841 (the species is figured).

²² Proc. Zool. Soc., London, 1837.

²³ Backhouse, J.: Narrative of a Visit to the Australian Colonies, 1843

had a pellucid cap marked by a cross, with about ten brown spongy masses coloured with shining globules attached to it by four pellucid muscles; it had also about ten whitish, obtusely-terminated tentaculæ, and numerous smaller ones. Another [also figured] was like a glass saucer, with a fine, fibrous margin. It continually expanded and contracted, and had a quadrifoliate mark in the centre, above, and a number of short tentaculæ beneath."

On Jan. 31 he "walked about four miles on the road toward the Canning River, through sandy forest, covered with Grass Trees or Black Boys. Large grubs are found in the trunks or rootstocks of the Black Boys, which are esteemed a delicacy, both by the Natives and by such of the white people as have learned to eat them. Parrots, Piping Crows, and Australian Magpies were the principal birds we saw. Emus are sometimes met with in this district; one was chased a few days ago by the river-side."

On Dec. 2, 1837, Lieut. (afterwards Sir) George Grey²⁴ and Lieut. Lushington landed in Hanover Bay, in what is now the Kimberley division of North-West Australia. Here they remained until April 17, 1838, discovering the Glenelg River and exploring the country between it and the Prince Regent River. Owing to the very difficult nature of the country and the hostility of the natives they were not able to penetrate very far from the coast.

Grey gives the following details of the fauna of this district:—

"North-Western Australia seems to be peculiarly prolific in birds, reptiles, and insects."

"Of quadrupeds there are but few species and of these the individuals, considered in proportion to the surface they roam over, are rare. The only species I observed during a residence of five months, were four of kangaroos, viz., the large *Macropus giganteus* (?) * of Shaw, two smaller kinds, one of which is the *Petrogale brachyotis* of Gould, and a kangaroo-rat, which last is always seen amongst the rocks on the sea-coast. One species of opossum, a flying squirrel (*Petaurista*), † two kinds of dogs, of which one is new, rats, and a field-mouse. Of these the kangaroos were alone numerous, and only in particular spots. I shot a female kangaroo of the *Petrogale brachyotis* near Hanover Bay, and by the preservation of the skin and other parts, enabled Mr. Gould to identify it as a new species. "This graceful little animal is excessively wild and shy in its habits, frequenting, in the daytime, the highest and most inaccessible rocks, and only descending into the valleys to feed early in the morning and late in the evening. When disturbed in the daytime, amongst the roughest and most precipitous rocks, it bounds along from one to the other with the greatest apparent facility, and

* Perhaps *M. robustus woodwardi*, Thos., certainly not *M. giganteus*.

† *Petaurus breviceps*, Waterh.

²⁴ Grey, G.: Journals of two expeditions of discovery in North-West and Western Australia, during the years 1837, 8 and 9, London, 1841.

is so watchful and wary in its habits that it is by no means easy to get a shot at it. One very surprising thing is, how it can support the temperature to which it is exposed in the situations it always frequents amongst the burning sandstone rocks, the mercury there during the heat of the day being frequently at 130 degrees. I have never seen these animals in the plains or lowlands, and believe that they frequent mountains alone.

“The new species of dog differs totally from the Dingo or *Canis Australiensis*. Its colour is the same as that of the Australian dog, in parts, however, having a blackish tinge. The muzzle is narrow, long, thin, and tapers much, resembling that of a greyhound, whilst in general form it approaches the English lurcher. I cannot state that I ever saw one wild, or unless in the vicinity of natives, in company with whom they were generally observed in a domestic state. On the other hand the *Canis Australiensis* was common in some parts in a state of nature. We heard them repeatedly howling during the night, and many portions of dead animals were carried off by them.

“I saw but two flying squirrels, and know not to which species of *Petaurista* they are to be referred.

“Both mice and rats are common, the former precisely resembling in appearance the English field-mouse.

“I have to record the remarkable fact of the existence, in these parts, of a large quadruped with a divided hoof: this animal I have never seen, but twice came upon its traces. On one occasion I followed its track for above a mile and a-half, and at last altogether lost it in rocky ground. The footmarks exceeded in size those of a buffalo, and it was apparently much larger, for, where it had passed through brushwood, shrubs of considerable size in its way had been broken down, and from the openings there left, I could form some comparative estimate of its bulk.”

“I cannot assert that the number of genera and species is at all proportionate to that of individual birds—the contrary is probably the real case. The birds of this country possess, in many instances, an excessively beautiful plumage. The beginning of the month of February, or the end of January, is the season in which the birds in these parts pair. In the beginning of March I found many nests with eggs in them; and in the end of that month eggs, nearly hatched, were observed in most of the nests, as well as young birds occasionally.

“Of rapacious birds I saw but four kinds, but these are by no means common. The first species was a very large bird, of a dark colour (*Aquila fucosa*, Cuv.), in size, appearance, and flight closely resembling the golden eagle. They appeared to me always to frequent the shores, for I never saw them further inland than a mile from the sea. The second species was a sort of hawk (*Haliaeetus*

leucosternus, Gould) * rather larger than the sparrow-hawk, of a light cinnamon colour, with a perfectly white head. They also frequent the shores. The third species was a Peregrine falcon (*Falco melanogenys*, Gould), † which is nearly allied to that of Europe. The fourth was the *Athene Boobook*. ‡ The only difference I could observe between the male and female is, that the female is rather larger than the male, and her colours somewhat lighter. These birds inhabit the whole of that part of North-Western Australia lying between the Prince Regent and Glenelg Rivers. They feed on insects, reptiles, and birds of the smaller kind. I have always found them seated in holes in the rocks, or in shady dells, and have never seen them fly in the day-time unless compelled by fear; they are very stupid when disturbed, and in flight and manner closely resemble the common English owl.”

“On March 25 we saw two large white and black birds, more like pelicans than any other kind I am acquainted with. They had webbed feet, and the colour and form of their body resembled that of the pelican, but the head and beak were very different. Upon describing them to Mr. Gould, he informed me that they were most probably of the rare species *Anas semipalmata*.” §

“A very curious sort of nest was frequently found, not only along the seashore, but in some instances at a distance of six or seven miles from it. This nest, which is figured, Mr. Gould informed me is the “run” or playing ground of the bird he has named *Chlamydera nuchalis*. These nests were formed of dead grass, and parts of bushes, sunk a slight depth into two parallel furrows, in sandy soil, and then nicely arched above. But the most remarkable fact connected with them was, that they were always full of broken shells, large heaps of which protruded from each extremity of the nest—these were invariably sea-shells. In one instance, in the nest most remote from the sea that we discovered, one of the men of the party found, and brought to me, the stone of some fruit which had evidently been rolled in the sea; these stones he found lying in a heap in the nest.

“I have seen no emus in North-Western Australia, but on two occasions their tracks were impressed in the mud on some plains lying on the banks of the Glenelg River; and Mr. Dring of H.M.S. “Beagle,” informed me that on the Fitzroy River he several times saw traces of them, and on one occasion when he was in the bush, two of them passed within a few yards of him.”

“The *Cuculus phasianus* || or Pheasant Cuckoo were abundant in some parts. This bird, in colour, in length of tail, in its size, and general appearance so closely resembles the hen pheasant of

* *Haliastur indus*, Bodd.

† *Rhynchodon peregrinus*, Tunst.

‡ *Spiloglaux novaeseelandiae*, Gmelin

§ Pied Goose (*Anseranas semipalmata*, Lath.).

|| *Polophilus phasianinus*, Lath.

England, that when it is on the wing, it is almost impossible to tell the difference; its habits and food are also identical with that of the English pheasant,—the chief point of distinction is that its toes point two before and two behind, in the same manner as those of a parrot; but what is very remarkable about this bird is, that although like the other Scansores, it delights in climbing and running up trees, it is equally fond of running along the ground in the manner a pheasant does. On Dec 21st I found plenty of these birds in a cover of long dry grass and bushes about half my height; as I beat this cover, the pheasants, with their whirring noise, rose on all sides of me.”

In the valleys clothed with tropical vegetation “cockatoos soared, with hoarse screams, above us, many coloured parrakeets darted away, filling the woods with their playful cries, and the large white pigeons,* which feed on the wild nutmegs, cooed loudly to their mates, and battered the boughs with their wing as they flew away.”

Both white and black cockatoos were met with, and on the rivers “we saw several sorts of cranes, principally *Ardea antigone*† and *Ardea scolopacea*.”

“No alligators were seen by the land party, in any of the rivers, but the crew of the schooner saw one in Hanover Bay. I can, however, safely assert from my own experience, that they are by no means numerous upon this coast. Turtles were abundant on the coast, and a long-necked freshwater tortoise was found inland.” In the Glenelg River, where it was quite fresh, a large shoal of porpoises was observed.

On March 23 “we fell in with a specimen of the remarkable frilled lizard (*Chlamydosaurus kingii*); this animal measures about twenty-four inches from the tip of the nose to the point of its tail, and lives principally in trees, although it can run very swiftly along the ground: when not provoked or disturbed it moves quietly about, with its frill lying back in plaits upon the body; but it is very irascible, and directly it is frightened, elevates the ruff or frill, and makes for a tree, where, if overtaken, it throws itself upon its stern, raising its head and chest as high as it can upon the forelegs, then doubling its tail underneath the body, and displaying a very formidable set of teeth, from the concavity of its large frill, it boldly faces any opponent, biting fiercely whatever is presented to it, and even venturing so far in its rage as to fairly make a fierce charge at its enemy. We repeatedly tried the courage of this lizard, and it certainly fought bravely whenever attacked. From the animal making so much use of this frill, as a covering and means of defence for its body, this is most probably one of the uses to which Nature intended the appendage should be applied.”

* Nutmeg-Pigeon (*Myristicivora bicolor*, Scop.)

† Crane or Native Companion (*Mathewsia rubicunda*, Perry).

On March 7 we saw "a very large Iguana which ran up a tree. This brute was of a beautiful green colour, and five or six feet long; it sat on the tree, making a noise somewhat like a snake."

On March 17 a curious, moving, mis-shapen object proved to be "a small kangaroo enveloped in the folds of a large snake, a species of Boa. It was of a brownish-yellow colour, and eight feet six inches long."

At the mouth of the river we often "watched a strange species of fish (genus *Chironectes*, Cuv.). These little animals are provided with arms, at least with members shaped like such as far as the elbow, but the lower part resembles a fin; they are amphibious, living equally well on the mud or in the water; in moving in the mud, they walk, as it were, on their elbows, and the lower arm or fin then projects like a great splay foot; but in swimming, the whole of this apparatus is used as a fin. They have also the property of being able to bury themselves almost instantaneously in the soft mud when disturbed. The uncouth gambols and leaps of these anomalous creatures were very singular.

"Another remarkable fish was a species of mullet, which being left by the retreat of the high tides in the pools was obliged to change its element from salt to fresh water, which by a very remarkable habit it appeared to do without suffering any inconvenience. The natural hue of this fish was a very pale red, but when they had been for some time in the fresh water this reddish tinge became much deeper, and when of this colour, I have found them in streams a considerable distance from the sea."

"The shores were thickly wooded with mangroves, from the boughs of which depended in clusters small but well-flavoured oysters." Ponds frequently "contained abundance of large fresh-water mussels (*unios*)."

"To sleep after sunrise was impossible on account of the number of flies which kept buzzing about the face. To open our mouths was dangerous,—in they flew, and mysteriously disappeared, to be rapidly ejected again in a violent fit of coughing; and into the eyes, when unclosed they soon found their way, and by inserting the proboscis, and sucking, speedily made them sore; neither were the nostrils safe from their attacks, which were made simultaneously on all points, and in multitudes."

"Whenever a tree was shaken, numbers of a large green sort of ant fell from the boughs on the unhappy trespasser, and making the best of their way to the back of his neck, gave warning by a series of most painful bites, that he was encroaching on their domain."

At night mosquitoes were troublesome, and brilliant fire-flies flitted amongst the bushes. "The gigantic ant-hills, so much spoken of by former visitors of these shores," were commonly met with.

Whilst Grey and his party were endeavouring to explore inland from Hanover Bay, H.M.S. "Beagle," under Capt. Wickham, was engaged in exploring part of the coastline of the Kimberley District.

1838.—Writing of Roebuck Bay, on January 17, 1838, Stokes⁹ mentions that "Vampyres* of a very large kind, were here met with, the furthest south we had seen them." "Several very large black martins, with white or grey heads (Noddies) † were hovering over the ship this morning; and many flights of small white tern, and a bird, commonly called the Razor-Bill, passed and repassed the ship every morning and evening, flying from the bay to seaward, and returning at sunset. Two water-snakes were shot alongside the ship during the day; the largest measured four feet, and was of a dirty yellow colour. A good sized fish was taken from the stomach of one of them. Their fangs were particularly long, and very much flattened, having no cutting edge whatever. Some turtle also passed the ship to-day, and a day or two afterwards we were fortunate enough to shoot one, which weighed 160 pounds."

From the end of January till the beginning of April, the "Beagle" was engaged in surveying King Sound and the Fitzroy River, which flows into it. Stokes makes the following notes on the animals met with in this district:—"It is not a country naturally very abundant in game of any kind, except kangaroos, which are numerous, but so harassed by the natives as to be of course extremely shy of the approach of man. However, Mr. Bynoe succeeded in shooting one, which possessed the singular appendage of a nail, like that on a man's little finger, attached to the tail.

The dimensions and height of this singular animal were as follows:—Length of body, from tip of nose, 22 inches; Length of tail, from stump to tip, 24½ inches; weight, 13 pounds.

This animal has been classed by Mr. Gould as *Macropus unguifer*, ‡ and is now deposited in the British Museum. "We also saw some very large red or cinnamon-coloured kangaroos, but never got near enough to secure one. They were apparently identical with a new race, of which I afterwards procured a specimen at Barrow's Island (*Osphranter Isabellinus*, Gould).§

On March 23rd, "We observed several of the rock-kangaroo, bounding over huge blocks of coarse sandstone, with their long, bushy tails, swinging high in the air, as if in defiance of pursuit."

* Flying-foxes (*Pteropus* sp.).

† Noddy Terns (*Anous stolidus*, Linn).

‡ Nail-tailed Wallaby (*Onychogale unguifera*, Gould).

§ *Macropus robustus isabellinus*, Gould.

⁹ Stokes, J. L. : Discoveries in Australia by H.M.S. Beagle, 1837-43. London, 1846.

On February 10th, natives were seen “accompanied by a black dog. The only instance in which, before or since, we observed the existence of a dog of that colour in this vast country. Captain King mentions that he saw one in this neighbourhood during his visit in 1821.”

Two emus were seen in a plain, by the Fitzroy River. A bronze-winged pigeon was met with, as well as “some rather small pigeons (*Petrophila albipennis*, Gould)* of a dark brown colour, marked with a white patch on the wings,” some of which were shot. “They made a whirring sound in flight, like the partridge, and appeared to haunt the rocks; a habit which all subsequent observations confirmed.

“We were lucky enough to shoot several quails of apparently quite a new species. In one particular, they differed from the members of the genus *Coturnix*, in having no hind toe.” On Valentine Island there were “quail large and small, which were numerous.” The plain of the Fitzroy River was “also a favourite resort of quail.”

“One day, when I had penetrated some considerable distance into the bush, I saw a large bustard,† but was unable to get a shot at him. I thought at the time that he bore a strong resemblance to the wild turkey of the colonists in the southern part of the continent.”

“Among the ornithological specimens obtained was one of the curlew tribe,‡ greatly resembling an ibis, and remarkable for its size. It measured from the extremity of the bill to the tip of the toe, 27½ inches, and weighed 1lb. 14½oz. The colour, with the exception of the belly and legs, which were of a dirty white, slightly mottled, very much resembled that of the common English wild duck.” At the mouth of the Fitzroy River, “the circling flight of the ever wary curlew and the shrill cry of the plover alone vouched for the presence of animal life.”

On February 6, “we flushed a white bird, or at least nearly so, with a black ring round the neck, and a bill, crooked, like the ibis, which bird indeed, except in colour, it more resembles than any I have ever seen. (Since ascertained to be an Ibis—the *Threskiornis strictipennis*).”§

On the Fitzroy “we saw white and black cockatoos,” and on March 25, in King Sound. “a large flock of white cockatoos screamed violently, as if wishing to dispute our landing.”

On Valentine Island, and on the mainland, on March 21, we flushed several Pheasant-cuckoos (*Centropus phasianellus*).|| On “a flat, clothed with rich grass, we found one of their nests on

* *Petrophassa albipennis*, Gould.

† Bustard or Wild Turkey (*Austrotis australis*, Gray).

‡ Australian Curlew (*Numenius cyanopus*, Vicill.).

§ White Ibis (*Threskiornis molucca*, Cuvier).

|| Pheasant Cuckoo (*Polophilus phasianinus*, Lath.).

the ground, containing four eggs; in size and colour, they resembled those of the domestic pigeon. The nimble manner in which these birds hop along the branches of trees, with their long tails whisking behind, gives them, at the first glance, more the appearance of monkeys than birds."

On Valentine Island "several birds, not unlike the so-called crow of the Swan River colonists, were seen," and on the Fitzroy River "we saw a variety of Finches." Several specimens of rare birds were obtained by Messrs. Bynoe and Dring, all of which are now figured by Mr. Gould in his *Birds of Australia*."

"Guanas and lizards were plentiful in this neighbourhood, and some of the latter, in particular, were most brilliant in colour. They ran down the tall trees, in which they seem to pass a great portion of their lives, at our approach, with a most marvellous rapidity, and darting along the ground, were soon in safety." On March 13th, on the Fitzroy, "we saw an alligator slide his unwieldy carcase from the soft mud-bank, upon which he had been "lazily" reclining, into one of the creeks."

In King Sound "we had one most successful haul with the seine, which amply supplied us with fresh fish for that and the two following days; the greater part were a kind of large mullet, the largest weighed six pounds five ounces, and measured twenty-five inches in length." "The fishing over the ship's side was not less successful than hauling the seine, though quite a different kind of fish was taken, to reward the labour of the salt-water Waltonians, who devoted themselves to it. They generally secured (at slack water) a large fish, in shape like a bream, and with long projecting teeth."

On the land "the flies are at you all day, crawling into your eyes, up your nostrils, and down your throat, with the most irresistible perseverance, and no sooner do they, from sheer exhaustion, or the loss of daylight, give up the attack, than they are relieved by the mosquitoes, who completely exhaust the patience which their predecessors have so severely tried." "What, perhaps, most attracted our attention, was the surprising size of the ant-hills, or nests. I measured one, the height of which was 13 feet, and width at the base 7 feet; from whence it tapered gradually to the apex. They are composed of a pale red earth; but how it is sufficiently tempered I am unable to state; certain is it that it has almost the consistence of mortar, and will bear the tread of a man upon the top."

While the "Beagle" was in Collier Bay, in April, 1838, Stokes records that "several rock kangaroos were seen on the heights." "Two birds (*Haematopus picatus*), rare on this part of the coast, were shot; they were of a smaller kind than any I had before seen, and different from them in plumage, being without the white collar round the neck."

On April 10th "we came within the searching glance of a hungry eagle, which soaring over our heads for some time, at length swooped within range of our guns, when he paid for his curiosity with the loss of his life. This was the only rapacious bird we saw in Collier Bay, and appears to be of the species *Falco leucogaster*, Latham. (Figured in Mr. Gould's work on the Birds of Australia as *Ichthyiaetus leucogaster*.) * On examination, the stomach contained fish and part of a small snake, and from what I have since observed this bird frequents the sea coast. Their nests are very large, built on bare spots in the shape of a pyramid; some of them measuring three feet in diameter, and six high."

"The scenery in some of the dells we crossed was very picturesque, and quite alive with birds and insects; flights of many-coloured parroquets swept by with a rapidity that resembled the rushing sound of a passing gust of wind."

On Feb. 28, 1838, at a meeting of the Zoological Society,²⁵ "Mr. Gould exhibited two species of the genus *Ptilotis*," one of which, *P. ornata*, n. sp., † was from the Swan River.

On June 4, 1838, at a meeting of the Entomological Society,²⁶ Mr. C. C. Babington read a paper on the *Dytiscidae* collected by Darwin, amongst which was one from King George's Sound, described as new under the name of *Hydroporus darwinii*.

In a "Catalogue of the Slender-tongued Saurians,"²⁷ published by J. E. Gray in 1838, a new species belonging to the Family *Monitoridae* from Shark's Bay, W.A., is described as *Odatria punctata*. ‡

On July 16, 1838, G. F. Moore records in his diary a story told to Sir James Stirling by an American whaler, which was at Bunbury during the Governor's visit there. He says:—"They have got a fine Yankee story to tell about a shark 30 feet long, which got entangled in the buoy rope attached to the anchor, and by its exertions actually weighed it and let the ship go adrift, to their no small consternation, until they discovered the cause. Many people saw the occurrence. The shark was eventually caught, and 37 gallons of oil procured from its liver."

In December he notes: "Coming up from Perth the other day I saw some emus near the road. Stooping on the horse, and keeping some bushes between me and them, I rode up within twenty yards before they took the alarm. It was a mother and two young ones. The poor mother became anxious and troubled, and fussed about like a hen with chicks, running and turning and leading them off."

* White-bellied Sea-eagle (*Cuncuma leucogaster*, Gmelin).

† Yellow-plumed Honey-eater (*Lichenostomus ornatus*, Gould).

‡ *Varanus punctatus*, Gray.

²⁵ Proc. Zool. Soc., London, 1838.

²⁶ Trans. Ent. Soc., London, III., 1841-1843.

²⁷ Annals of Nat. Hist., Vol. I., 1838.

“Sitting the other night at an evening party in Perth, a little kitten came playing in the room. I felt something thrown against my leg several times, but did not pay much attention; at last, on a repetition, I looked more closely, and found it a large scorpion which the kitten was tossing about so unconcernedly.”

1839.—During January, 1839, Lieut. Grey²⁴ made an expedition to look for a settler who had lost his way in proceeding from the Williams to Bunbury. He ultimately reached Bunbury in safety. In the country about the Williams and the Harvey, Grey saw kangaroos and kangaroo-rats. “The most usual disturbers of these wooded solitudes were the black cockatoos.”

On February 17, 1839, Grey left Fremantle in a whaler to explore Sharks Bay, and, if possible, to make a journey inland. The party disembarked on Bernier Island, where the whaler left them with three boats and ample stores. Three days later one of their boats was smashed to pieces in a storm. They visited Dorre Island, and then crossed to the mainland where they discovered the mouth of the Gascoyne River, but constant storms prevented much exploration. On returning to Bernier Island a month later they found that during their absence a gale had blown away their depôt of provisions. There was nothing for it but to endeavour to make their way back to Fremantle in the two boats with the remnants of their provisions, but after leaving the Bay by the South Passage, both boats were smashed in landing at Gantheaume Bay. From this point they travelled on foot to Perth, which was reached, after they had endured great hardship, by all the members of the party except a youth named Smith, who died of exhaustion.

Grey records the following observations on animals seen at Sharks Bay. On Bernier Island “the only animals we saw were kangaroo-rats, one pigeon, one small land-, and many sea-birds, a few lizards, mosquitoes, ants, crabs, oysters and turtle.” On Dorre Island they met with “a small species of kangaroo-rat” and a cormorant and found turtles’ eggs.

On the shores of the mainland they saw tracks of native-dogs and emus, and at the mouth of the Gascoyne a sandy point was “covered with pelicans and wild fowl.” During their walk up the bed of the river they “saw many cockatoos.”

As they sailed along the coast the flats beneath them “were covered with vivid coloured shells of many genera, some of which were of a large size; strange-looking fish of a variety of kinds were also sporting about, more particularly large sharks of a new species, and sting-rays.” All along the shoals we met with abundance of shell and other fish, and the pearl oyster was very abundant; indeed the shell-fish along these banks were more numerous

24 Grey, G.: Journals of two Expeditions of Discovery in North-West and Western Australia, during the years 1837, 8, and 9, London, 1841.

and varied than I had ever before found them. I saw but few shells which I recognised as belonging to the southern portions of Australia, whilst many were identical with those which occur to the north-west."

There were "armies of crabs" on the mangrove-flats, and "land-crabs" among the sand-hills, and they "were completely blackened from the numbers of mosquitoes that covered them."

On the journey from Gantheaume Bay to Perth overland, Grey records seeing kangaroos, native dogs, emus, wild turkeys, wild swans, pigeons, white cockatoos ("of a species new to me"), black cockatoos, parrakeets, hawks and crows, and freshwater mussels (*Unio*).

On June 3, 1839, at a meeting of the Entomological Society,²⁶ Mr. W. Bainbridge described a number of Australian beetles of the genus *Bolboceras* in the collection of the Rev. F. W. Hope. Amongst them were six new species from the Swan River, three of which had been collected by Capt. Roe.

On Aug. 3 Moore writes that, in company with Lieut. Grey and Mr. Leake, he went to visit the waterfalls (Lesmurdie?). "We found a number of land shells about the rocks near the face of the cliff. These shells are rare in the colony. I do not know that I have seen any before."

On Nov. 11 he records that on a short excursion to the northwards, "whilst we were at one of the lakes a native joined us who had a snake 7 feet 4 inches long, which he had killed. I bought the skin from him; he ate the body."

On Nov. 30 he writes: "I learned to-day the way to procure the crayfish as the natives do. In a swamp you see a hole with earth thrown up, much in the way that you see it with the large worms on the sea-shore. You must put in your arm and scrape with your hand till you find it, perhaps two feet down. It is like a small, very small lobster, and can bite very smartly."

In a second part of J. E. Gray's Catalogue of the Slender-tongued Saurians,²⁸ published in 1839, a lizard belonging to the *Scincidae* from King George's Sound is described as *Chiamela duvancellii*, Cocteau (?).

During 1839 the Rev. F. W. Hope published²⁹ a figure and description of a longicorn beetle sent by Capt. Roe from Swan River and named it *Lamia boisduvalii*.

1840. On Jan. 14, 1840, H.M.S. "Beagle"⁹ was fifty miles North-West of "the north point of Sharks Bay" at noon. On the same evening, Stokes records, they "saw a herd of sperm whales." During the same month the colonial schooner "Champion" was sent

9 Stokes, J. L. : Discoveries in Australia by H.M.S. Beagle, 1837-43. London, 1846.

26 Trans. Ent. Soc., London, III., 1841-1843.

28 Annals of Nat. Hist., II., 1839.

29 Mag. of Nat. Hist., New Series, Vol. III., 1839.

to examine the country about what was subsequently known as Champion Bay, and also visited Houtman's Abrolhos Islands. Mr. G. F. Moore, who accompanied the expedition, wrote:²⁴ "Nothing can exceed the beauty of the different sorts of coral, as seen under the clear, smooth water. We broke off many specimens of the branch or tree coral, which seemed to be in full vigour of life and activity. In passing from island to island, we had many opportunities of observing the different formation and shape of several species of coral; some stood in masses of the brainstone and cockscomb coral, some like petrified sponge, some like fans, some again of the branch coral interlaced and intertwined in every direction; again, some broad flat masses lying layer over layer, like huge sea lichens; again, many presented the appearance of a fungus or great sea-mushroom, with a broad-spreading head springing from a small thick base. These islets appear to be a favourite resort of seals, many of which we saw, but of the sort called hair seals.* Birds were abundant on most of the isles, and on two of them were hawks' nests, raised to the height of four feet by an accumulation of stick, stones, and shells. Rock oysters, of a large size and delicious flavour, were found in great abundance."

In his diary Mr. Moore adds: "One day we had very nice soup made from the *haliotis* or *Aures marinae*. I was rather disappointed at not finding turtle. To my surprise we found a great number of an animal called wallaby †—about the size of a hare. How did they get there? It is 45 miles from land."

On March 9 he mentions, "One of the Messrs. Burges came here to breakfast this morning; he comes from near York, where they are now settled. He tells me he killed 103 emus since he went over there, about three years ago."

During April and May, 1840, the "Beagle" was engaged in surveying the Houtman's Abrolhos Islands. Stokes⁹ mentions that a few hair seals were met with on Pelsart Island and Rat Island; the latter island was named "from the quantity of that vermin with which it was infested."

"The northern end of West Wallaby Island is a level, stony flat with patches of bushes large enough to serve as fuel here and there, all full of a new species of wallaby, which, being plentiful on both the large islands, suggested their name. The reader will obtain a good idea of the numbers in which these animals were found when I state that on one day, within four hours, I shot 36, and that between three guns we killed 76, averaging in weight about seven pounds each. On North Island there was not a single

* White-necked Hair-seal (*Eumetopias albigollis*, Peron).

† Dama Wallaby (*Macropus eugenii*, Desm.)

⁹ Stokes, J. L.: Discoveries in Australia by H.M.S. Beagle, 1837-43. London, 1846.

²⁴ Grey, G.: Journals of two expeditions of discovery in North-West and Western Australia, during the years 1837, 8 and 9, London, 1841.

wallaby. The species has been described, from a specimen we obtained, as *Halmaturus Houtmanni*; it is distinct from *Halmaturus Derbyanus*, found on most of the islands on the southern parts of the continent."

"The soil of Rat Island, and the south-west side of West Wallaby Island, is filled with burrows of the sooty petrel or mutton bird,* so that it forms rather troublesome walking. There was a flat in the centre of North Island, covered with coarse grass, where a great many quails were flushed, affording good sport. Three small flat islands just between the Wallaby Islands were called Pigeon Islands, the common bronze-winged pigeon† being found there in great numbers. It may be remarked that the birds met with on Houtman's Abrolhos, with the exception of one, resembling in shape and colour a small quail (*Hemipodius scintillans*, Gould),‡ were known and common on the mainland. The aquatic species were also familiar to us, but the habit of one kind, of a sooty-black colour, generally called noddies,§ was quite new—that of building their nests, which are constructed of seaweed and contain only one egg, in trees."

"On Rat Island we saw numbers of a very pretty lizard [figured in the appendix by J. E. Gray as *Silubosaurus stokesii*,|| new sp., though the only habitat there given is Australia], with its tail covered with spines. Several of them were brought away alive. Lieut. Emery was so fortunate as to bring one alive to England, in 1841. He writes: 'The Abrolhos lizard is very docile, and knows Mrs. Emery quite well, and will eat and drink out of her hand, but is timid with strangers. Its habits are rather torpid, but it becomes active when in the sun or before the fire. It eats so very little that a piece of sponge cake about the size of a small bean will satisfy it for three or four weeks. It changes its skin twice a year.'"

"There were not many varieties of fish about the islands, the most abundant being snappers. A bank seven miles east of the Easter Group we called Snapper Bank, from the immense quantity of that fish which we found on it. In half an hour we caught more than we could cure."

"A rich kind of rock oyster was found at low water at Pelsart Island."

On June 7, 1840, G. F. Moore notes in his diary: "Mr. Preiss, the naturalist, has found over the hills a species of jerboa. I had often heard the natives speak of it by the name of *daddaar*, as abounding in the interior. Its shape is like a kangaroo, but more delicate and graceful, and scarcely as large as a squirrel."¶

* Wedge-tailed Petrel (*Thyelodroma pacifica*, Gmel).

† Brush Bronze-wing (*Cosmopelia elegans*, Temm.).

‡ Painted Quail (*Entygodes varius*, Lath).

§ Lesser Noddy (*Megalopterus tenuirostris*, Temm.).

|| *Egernia stokesi*, Gray.

¶ *Notomys mitchelli*, Ogilby.

On June 9, 1840, the "Beagle" visited Depuch Island, and Stokes recorded: "Although Depuch Island had been visited before, there still remained something quite new to reward the diligent search that was made after objects of natural history, namely, a small kind of kangaroo, a land bird, and a shell, a species of *Helix*. The bird was shot by Mr. Bynoe; it was a finch (*Emblema picta*, Gould) and beautifully marked with stripes of crimson down the breast on a black ground with white spots; the throat, and a patch round the stump of the tail, were crimson. It is remarkable that all the beauty and brilliancy of colour in this bird is underneath, the back being of a common earthy brown.

"The kangaroo I had myself the good fortune to knock over on the summit of the island. The colours of this specimen, the prettiest we had seen, were a dark grey, with a large angular patch of white down the side, extending from the top of the shoulders nearly to the hips. Down the centre of the back ran a streak of black, which was also the colour of the extremity of its slightly bushy tail. The face and belly were likewise darker than other parts of the body, and the feet were black and well cushioned, giving it a firm hold of the rocks over which it bounded with surprising agility, though it never ran very far, always popping into the cavities caused by the loose manner in which the blocks forming the island are thrown together. (Mr. Gould has figured an animal very like this I have described as *Petrogale lateralis*, from a specimen he some time afterwards got from Western Australia, but he has not noticed the beautiful kangaroo of Depuch Island)."

Whilst the "Beagle" was at the Turtle Islands "in the course of four hours thirty green turtles* were brought on board; one of which, and not the largest, weighed 385 pounds. A small hawk's bill,† the first and only one seen, was also taken. On this part of the coast grows a peculiar, small kind of weed, on which they feed; it was first seen near Depuch Island."

On June 23, 1840, at a meeting of the Zoological Society of London, the Rev. F. W. Hope³⁰ & ³¹ read a paper entitled "Observations on the Stenochoridae (Longicorns) of New Holland." Nine species, belonging to five genera, are recorded from Swan River, all but one of them being described as new. Seven of the species had been sent by Captain Roe.

On Aug. 25, 1840, at a meeting of the Zoological Society³⁰ "specimens were exhibited of five new species of kangaroo, forming part of the collection made by Mr. Gould, who had just returned from Australia, after an absence of two years and a-half in the investigation of the habits and economy of the animals of that con-

* *Chelonia mydas*, Linn.

† *Caretta caretta*, Linn.

³⁰ Proc. Zool. Soc., London, 1840

³¹ Trans. Zool. Soc., Vol. III., 1849.

continent." Among them were *Macropus unguifer*, n. sp.* from the North-West coast of Australia and *Macropus lunatus*, n. sp.,† from the West coast of Australia.

"Mr. Gould also exhibited a remarkable spiny lizard, allied to the Agamas,‡ which he had procured from Swan River."

On Aug. 27, the "Beagle" was at Delambre Island, near Bed-out Island, where "a few turtle were taken of a different kind from any we had seen before, and apparently a cross between the Hawk's Bill and the Green Turtle; several nests were also found, in one of which were 138 eggs."

Stokes further records "near Barrow Island, on our passage, I shot (from the quarter-boat) the largest sea-snake ever killed. It is figured and described in the Appendix by Mr. J. E. Gray (who only gives the locality as "Australia), as *Hydrus major*, and measured eight feet one inch in length by three inches broad; the colour was a dark yellow; several smaller ones, striped brown and white, were also seen."

"We found a new kind of kangaroo and wallaby on Barrow Island; but the only specimen obtained of the former was destroyed through the neglect of the person in whose charge it was left. It was a buck, weighing fifty pounds, of a cinnamon colour on the back and a dirty white on the belly; the hair was fine and long; the head of a peculiar shape, resembling a dog's, with a very blunt nose; the forearms were very short; the hind feet cushioned like those inhabiting rocky ground. The does appeared to be much lighter, but all were very wary and scarce. From the number of red sandhills, too, scattered over the island, they were difficult to be seen at a distance. From our description of this specimen it has been named *Osphranter isabellinus*.§ With the wallaby|| we were more fortunate, Mr. Bynoe and myself succeeded in knocking over four, weighing from five to eight pounds; they also had blunt noses, and were of a light brown colour, quite different from those on the Abrolhos.

"Two iguanas measuring seven feet in length, and nearly black, striped slightly with white, were also killed here." "On leaving we brought away with us seven tons of turtle from the abundant supplies the shores afforded."

There were plenty of wallaby on the larger of the Montebello Islands. "On Tremouille Island, the wallaby, which were very numerous, must have got their supply of moisture from the copious dews. They were found lying close in the wiry prickle grass, allowing us to kick them out, when they went off at speed, affording excellent sport, quite equal to any rabbit shooting; among three guns we managed, in a couple of hours, to bag nearly twenty. It

* *Onychogale unguifera*, Gould.

† *Onychogale lunata*, Gould.

‡ Mountain Devil (*Moloch horridus*, Gray).

§ *Macropus robustus isabellinus*, Gould.

|| *Lagorchestes conspicillatus*, Gould.

was quite a new kind of wallaby, and has been classed, from a specimen we brought away, as *Lagorchestes conspicillata*. It had a blunt nose, similar to those at Barrow Island, and was about the same size, though its colour was lighter, and it had a back exactly like a European hare. The tail tapered away like a rat's, and the flesh was by no means good to eat, tasting very strong; this was the only instance in which we found wallaby at all unpalatable."

On October 13, 1840, at a meeting of the Zoological Society,³⁰ "Mr. Gould stated that he had received from Swan River a bird having habits similar to those of the Brush Turkey of New South Wales and a similar mode of nidification, but differing in inhabiting the open sandy plains and in forming the mound for the reception of the eggs of sand, dead grass, and boughs, depending as much upon the sun's rays as upon the heat produced by decomposition to develop the young. Mr. Gould added, that a most interesting note, detailing these facts, accompanied these specimens, and that an equally important sketch of its range, etc., had been furnished him by Capt. Grey, who had just returned from the North-West coast of Australia. Mr. Gould characterised it as a new genus, under the name of *Leipoa*, signifying the deserter of its eggs. The specific term of *ocellata* was suggested by the ocellated character of many of the spots with which its body is adorned.

Mr. Gould next characterised two new birds :—

Cracticus argenteus *—N.W. coast of Australia (collected by Capt. Grey), and

Amadina pectoralis †—N.W. coast of Australia (collected by Mr. Dring of H.M.S. "Beagle").

Mr. Gould next characterised two new species of kangaroo :—

Macropus (Halmaturus) manicatus ‡—Swan River.

Macropus (Petrogale) brachyotis §—Hanover Bay, N.W. coast of Australia (collected by Capt. Grey).

In November the "Beagle" called at Albany on her way back to Sydney. Stokes wrote that "in this neighbourhood the kangaroo is found in great abundance. I am certain there could scarcely have been less than a hundred in a herd. It was curious to observe them hopping along over the grass or underneath the trees, with the large males bringing up the rear of a certain number of does." "We heard the kangaroos thumping the ground all night, as they hopped along round our bivouacs, the heavier fall of the male being plainly distinguishable."

On Nov. 10, G. F. Moore mentions that he had been over to Rottneest to examine and report upon the aboriginal prisoners; one of them had been poisoned by eating a "blowfish" and died.

* *Bulestes torquatus*, Lath.

† *Heteromunia pectoralis*, Gould.

‡ *Macropus irma*, Jourd.

§ *Petrogale brachyotis*, Gould.

³⁰ Proc. Zool. Soc., London, 1840.

At a meeting of the Zoological Society³⁰ on November 10, Mr. Gould exhibited a small Rodent, supposed to be identical with the *Dipus mitchellii*,* procured from Western Australia.

At this meeting, and those of November 24, and December 8, he also exhibited fifty new species of birds from his Australian collection, amongst which were the following from Western Australia :—

Euphema splendida,^a *Euphema petrophila*,^b *Climacteris rufa*,^c *Ocypterus personatus*,^d (also from South Australia), *Ptilotis plumulus*,^e *Myzantha obscura*,^f *Ptilotis sonorus*^g (also from South Australia), *Glyciphila albifrons*,^h *Meliphaga mystacalis*,ⁱ *Falco hypoleucos*, *Podargus brachypterus*,^j (or *macrorhynchus*), (from Swan River), *Colluricincla brunnea* (from the N.W. coast), *Colluricincla rufiventris* (from Swan River), *Zosterops chloronotus*,^k *Myzomela pectoralis*,^l (from the N.W. coast), *Dasyornis longirostris*,^m *Piezorhynchus nitidus*,ⁿ (from the N.W. coast), collected by Mr. Dring, Surgeon, of H.M.S. Beagle, *Acanthiza inornata* (from Swan River), *Microeca assimilis*,^o (from Swan River), *Myiagra latirostris* (from the N.W. coast, collected by Mr. Dring), *Petrophassa albipennis* (from the N.W. coast), *Rhipidura isura*,^p (from the N.W. coast, collected by Capt. Grey, and by Mr. Dring), *Psilopus culicivorus*,^q *Licmetis pastinator*,^r *Porphyrio bellus*, *Anas naevosa*.^s

At a meeting on December 8, Gould also exhibited a new species of *Hypsiprymnus* from Swan River, which he characterized under the name of *H. grayi*.^t

In the *Annals of Natural History*³² for 1840, Edward Newman published an article on Australian Longicorns, in which *Scelocantha pilosicollis* (Hope) is recorded from Swan River.

* *Notomys mitchelli*, Ogilby.

^a *Neophema splendida*, Gould.

^b *Neonanodes petrophilus*, Gould

^c *Whitlocka rufa*, Gould.

^d *Campbellornis personatus*, Gould.

^e *Lichenostomus plumulus*, Gould.

^f *Myzantha flavigula*, Gould.

^g *Meliphaga sonora*, Gould.

^h *Glyciphila albifrons*, Gould.

ⁱ *Meliornis niger*, Bechst.

^j *Podargus strigoides*, Lath.

^k *Zosterops gouldi*, Bonap.

^l *Cissomela pectoralis*, Gould.

^m *Sphenura longirostris*, Gould.

ⁿ *P. alecto*, Temm.

^o *M. fascinans*, Lath.

^p *Setosura setosa*, Q. & G.

^q *Ethelornis culicivorus*, Gould.

^r *L. tenuirostris*, Kuhl.

^s *Stictonetta naevosa*, Gould.

^t *Bettongia lesueuri grayi*, Gould.

³⁰ Proc. Zool. Soc., London, 1840.

³² Ann. Mag. Nat. Hist., Vol. V., 1840.